UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

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OFFICE OF WATER

Minnesota Office of Administrative Hearings
600 North Robert Street
P.O. Box 64620
St. Paul, MN 55164-0620

Dear Minnesota Office of Administrative Hearings:

I am writing to clarify the position of the U.S. Environmental Protection Agency (EPA) on several points raised in comments on the Minnesota Pollution Control Agency's (MPCA) River Eutrophication criteria.

First, the EPA's Office of Water, Office of Science and Technology (OST) requested that the EPA Science Advisory Board (SAB) review a draft technical support document describing the use of stressor-response relationships for deriving numeric nutrient criteria in 2009. The EPA Science Advisory Board was established by Congress to provide the Agency with independent external peer review and expert advice on scientific and technical aspects of environmental issues.[1] Thus, EPA routinely seeks SAB advice and recommendations on draft documents to be considered when preparing the document for publication.

The SAB review comments on the draft version of the document, *Using Stressor-response Relationships to Derive Numeric Nutrient Criteria* (EPA-820-S-10-001), hereafter referred to as the "stressor-response document" or "technical support document," were intended to help OST during the revision of the draft document before publication, and hence, the primary audience for this review was OST. The OST revised this draft technical support document and published it as mentioned above in 2010. The stressor-response document articulates general practices that EPA believes, when followed, should yield accurate and precise relationships between changes in nutrient concentrations and biological responses. The main audiences for the document are states that are deriving numeric nutrient criteria.

Second, as with any other technical support or guidance document, the practices described in the stressor-response document are recommendations, and are thus non-binding. States that are deriving numeric nutrient criteria can choose to follow the practices described in

[1] For more information about the EPA SAB, please see: http://yosemite.epa.gov/sab/sabpeople.nsf/WebCommittees/BOARD

the stressor-response document, or employ other scientifically defensible approaches to derive numeric nutrient criteria that are protective of the applicable designated use(s) and based on sound scientific rationale. See 40 CFR part 131.11. To perhaps an even greater degree, the SAB comments on the draft stressor-response document should be regarded as non-binding as their primary audience was OST, and they were not intended to provide direct guidance to states on numeric nutrient criteria derivation. When EPA reviews and approves or disapproves new or revised state-adopted water quality standards to determine if they meet the requirements of the Clean Water Act, the Agency follows the Act and its implementing regulations at 40 CFR part 131 in making those decisions. When evaluating new or revised numeric water quality criteria, the Agency looks primarily to 40 CFR part 131.11(a), which, as mentioned above, requires the criteria to protect the applicable designated use(s) and be based on sound scientific rationale. When evaluating whether new or revised criteria adopted by a state are based on a sound scientific rationale, EPA evaluates whether the criteria are either consistent with EPA guidance or a different scientifically defensible approach that is protective of the applicable designated use(s).

Third, as noted in the stressor-response document, quantile regression and changepoint analysis can provide valid approaches for characterizing the relationships between nutrient concentrations and biological responses. Quantile regression is noted as providing a means of estimating a relationship "when one believes that the stressor of interest sets an upper limit to the value of the response variable" (see p. 52, stressor-response document), while changepoint analysis is highlighted as an approach to characterize responses that change suddenly in response to nutrient pollution. Most importantly, the SAB comments on the draft stressor-response document requested further details regarding the use of these approaches, but did not question the validity of these approaches. More specifically, the SAB notes that "The six methods identified in the Guidance generally provide appropriate options for describing stressor-response relationships that may be sufficiently predictive to support setting numeric nutrient criteria." (see p. 23, SAB review of draft stressor-response document)

I hope this letter clarifies questions regarding Agency positions or actions that relate to points raised by commenters on MPCA's River Eutrophication criteria. If I can be of further assistance, please do not hesitate to contact me.

Sincerely,

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